

In the Claims:

Please amend the claims as follows:

1. (Currently amended) A semiconductor apparatus, comprising: a dielectric layer comprising a surface, a portion of said surface having exposed aromatic groups, said dielectric layer being formed from a precursor composition having a refractive index of at least about 1.52; and a polycrystalline semiconductor layer comprising an organic semiconductor composition overlying and in contact with said portion of said surface, said organic semiconductor composition comprising a compound comprising a chain-like moiety, the chain-like moiety comprising a conjugated thiophene or phenyl group and comprising alkyl chains at ends of the chain-like moiety.
2. (Original) The semiconductor apparatus of claim 1, in which each of said moieties comprises on average at least about three conjugated aromatic rings.
3. (Original) The semiconductor apparatus of claim 1, in which the alkyl chains comprise on average between about 3 and about 12 carbon atoms.
4. (Cancelled).
5. (Original) The semiconductor apparatus of claim 1, in which said polycrystalline semiconductor layer has a mobility of at least about 0.1 centimeters squared per volt-second.

6. (Original) The semiconductor apparatus of claim 1, in which said polycrystalline semiconductor layer has an average semiconductor crystal size of at least about 0.1 micrometer.

7. (Original) The semiconductor apparatus of claim 1, further comprising: a gate electrode; a source electrode; and a drain electrode; said source and drain electrodes being in spaced apart conductive contact with a channel portion of said semiconductor layer, said gate electrode being positioned to control a conductivity of said channel portion.

8. (Original) The semiconductor apparatus of claim 2, in which each of said moieties comprises on average between about three and about six conjugated aromatic rings.

9. (Currently amended) The semiconductor apparatus of claim 1 ~~claim 4~~, in which said precursor composition comprises a member selected from the group consisting of: naphthalenes, styrenes, phenols, benzenes, and cresols.

10. (Original) The semiconductor apparatus of claim 7, in which the channel portion has an on/off ratio of at least about 100.

11. (Original) The semiconductor apparatus of claim 8, in which the semiconductor composition comprises a member selected from the group consisting of: 5,5'-Bis(4-*n*-hexylphenyl)-2,2'-bithiophene; 5,5''-Bis(4-*n*-hexylphenyl)-2,2':5',2''-terthiophene; 5,5'''-Bis(4-*n*-

hexylphenyl)-2,2':5',2":5",2'''-quaterthiophene; 1,4-Bis[5-(4-*n*-hexylphenyl)-2-thienyl]benzene; 2,5-Bis[4(4'-*n*-hexylphenyl)phenyl]thiophene; 5,5'''-Bis(4-*n*-hexyl)-2,2':5',2":5",2'''-quaterthiophene; 5,5''''-Bis(4-*n*-hexyl)-2,2':5',2":5",2''':5''",2''''-pentathiophene; 1,4-Bis[(5-*n*-hexyl)-2,2'-bithienyl]benzene; 2,6-bis(5-hexylthien-2-yl)naphthalene; and mixtures.

12. (Original) The semiconductor apparatus of claim 9, in which said dielectric layer comprises poly(4-vinylphenol-co-2-hydroxyethyl methacrylate).

13. (Original) The semiconductor apparatus of claim 11, in which the semiconductor composition comprises 5,5'-Bis(4-*n*-hexylphenyl)-2,2'-bithiophene.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Currently amended) An integrated circuit, comprising: a dielectric layer comprising a surface, a portion of said surface having exposed aromatic groups, said dielectric layer being formed from a precursor composition having a refractive index of at least about 1.52; a polycrystalline semiconductor layer comprising an organic semiconductor composition overlying and in contact with said portion of said surface, said organic semiconductor composition comprising a compound comprising a chain-like moiety, the chain-like moiety comprising a conjugated thiophene or phenyl group and comprising alkyl chains at ends of the chain-like moiety; a gate electrode; a source electrode; and a drain electrode; said source and drain electrodes being in spaced apart conductive contact with a channel portion of said semiconductor layer, said gate electrode being positioned to control a conductivity of said channel portion.

20. (Cancelled)

21. (Previously presented) The semiconductor apparatus of claim 9, in which said dielectric layer comprises a polyphenol, a polystyrene, a poly(4-vinylphenol-co-2-hydroxyethyl methacrylate), or a poly(phenoxyethyl methacrylate).

22. (Previously presented) The semiconductor apparatus of claim 1, in which an alkyl chain comprises, as a linkage in the chain, a member selected from the group consisting of oxygen, nitrogen or sulfur.

23. (Previously presented) The semiconductor apparatus of claim 1, in which an alkyl chain comprises a hetero substituent.
24. (Previously presented) The semiconductor apparatus of claim 1, in which a thiophene or phenyl group includes an alkyl- or hetero-substituent.
25. (Previously presented) The semiconductor apparatus of claim 1, in which each of said moieties comprises between about 3 and about 10 conjugated aromatic rings.
26. (Previously presented) The semiconductor apparatus of claim 1, in which the dielectric layer has at least the polarizability of chlorobenzene.
27. (New) The integrated circuit of claim 19, in which the precursor composition comprises a member selected from the group consisting of: naphthalenes, styrenes, phenols, benzenes, and cresols.